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Effects of social skills training among freshman undergraduate nursing students: a randomized controlled trial

Učinci treninga socijalnih vještina kod studenata prve godine preddiplomskog Studija sestrinstva: randomizirano kontrolirano ispitivanje

Vesna Antičević, †Joško Sindik, Mira Klarin, Varja Đogaš, Ana Stipčić, Goran Kardum, Ivana Barać, Sanja Zoranić, Marina Perković Kovačević[*]

Summary

Objectives. The goal of the study was to evaluate the effects of workshops focused on the training of communication skills. The next goal was to determine the inter-correlations between different social skills, in four situations: in experimental/ control group of participants and before/ after social skills training intervention.

Materials and Methods. Experimental design type 2x2, with experimental and control group was used. Students from four Croatian universities were involved in the Social Skills Training (SST). The sample consisted of 193 students, from which N =132 in the control group and N = 61 in the experimental group. Training of Social Skills (used as an independent variable) was conducted only in the experimental group, while the Social Skills Checklist (SSC) scores were the dependent variable.

Results. Some expected significant differences in certain SSC in the experimental group suggested positive effects of Social Skills Training. Similar insights provide the trend of intercorrelations, which are generally higher in the experimental group in the situation after SST. However, unexpected differences in certain social skills between experimental and control groups were found in the initial measurement.

Conclusion. SST was found to be effective for students' social skills learning. Reasonable explanations of the results obtained are given in terms of the assumption that SST could also partially reflect the attitudes towards SST, while the SSC need not be identical to real acquired social skills.

Key words: health studies, perceived social skills

Sažetak

Ciljevi istraživanja: U ovom radu željeli smo provjeriti učinak treninga socijalnih vještina na usvajanje socijalnih vještina studenata zdravstvenih studija. Sljedeći cilj je bio utvrditi povezanost između različitih socijalnih vještina u četiri različite situacije: između eksperimentalne i kontrolne skupine, te prije i nakon treninga socijalnih vještina.

Materijali i metode: Koristili smo eksperimentalni nacrt 2x2 s eksperimentalnom i kontrolnom skupinom. U treningu socijalnih vještina sudjelovali su studenti iz četiri hrvatska sveučilišta. Uzorak se sastojao od 193 studenta, od kojih je 132 bilo u kontrolnoj, a 61 u eksperimentalnoj skupini. Trening socijalnih vještina (nezavisna varijabla) proveli smo samo na studentima iz eksperimentalne skupine. Bodove na Skali socijalnih vještina (zavisna varijabla) uspoređivali smo prije i nakon treninga kod obje skupine studenata.

Rezultati: Rezultati su potvrdili postojanje značajnih efekata treninga samo kod eksperimentalne skupine. Više stupnjeve povezanosti između različitih socijalnih vještina pronašli smo u eksperimentalnoj skupini, u

[*] **University of Split,** Department for Health Studies (Ass. prof. Vesna Antičević, PhD, Ana Stipčić, MSc); **Institute for anthropological research, biostatistics** (†Ass. prof. Joško Sindik, PhD, psychologist deceased); **University of Zadar,** Department for Health Studies **(**Prof. Mira Klarin, PhD); **University of Split,** School of Medicine (Varija Đogaš, PhD, MD); **University of Split,** Faculty of Humanities and Social Sciences (Prof. Goran Kardum, PhD); **University of Osijek,** School of Medicine (Ivana Barać, MSc, Marina Perković Kovačević, MSc); **University of Dubrovnik,** Nursing study (Sanja Zoranić, bacc. med. techn.);

Corresponding author/*Adresa za dopisivanje*: Doc. dr. sc. Vesna Antičević, University of Split, Department for Health Studies, Ruđera Boškovića 35, 21000 Split, Croatia, e-mail: vesna.anticevic@ozs.unist.hr

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situaciji nakon završenoga treninga. Međutim, razlike u neočekivanom smjeru pronašli smo u socijalnim vještinama između eksperimentalne i kontrolne skupine u početnom mjerenju (prije treninga).

Zaključak: Trening socijalnih vještina je učinkovit u učenju socijalnih vještina studenata zdravstvenih studija. Međutim, pretpostavili smo da rezultati na skali socijalnih vještina dijelom mogu odražavati stavove prema učenju socijalnih vještina, što je moglo interferirati s rezultatima na skali.

Ključne riječi: zdravstveni studiji, socijalne vještine

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Introduction

Social skills are essential characteristics of nursing-related professionals, particularly nurses. Therefore, the training of social skills regarded as situation-specific behaviors is particularly important to improve the collaboration within the healthcare team, or/and communication with patients.

Social skills

The Occupational Information Network[1] uses the term "social skills" and defines them as developed capacities used to work with people to achieve goals. Social skills include a wide range of skills, varied from basic to very complex, which altogether enable coping with social interactions[2] (Picture 1).

Social skills	**Foundation Skills** - Basic social interaction (Ability to maintain eye contact, maintain appropriate personal space, understand gestures and facial expressions)
	Interaction skills - Skills needed in interaction with others (Resolving conflicts, taking turns, learning how to begin and end conversations, determining appropriate topics for conversation, interacting with authority figures)
	Affective skills - Skills needed to understanding oneself and others (Identifying one's feelings, recognizing the feelings of others, demonstrating empathy, decoding body language and facial expressions, determining whether someone is trustworthy)
	Cognitive skills -Skills needed to maintain more complex social interactions (Social perception, making choices, self-monitoring, understanding community norms, determining appropriate behavior for different social situations)

Picture1 Social Skills Sets[2]
Slika 1. Set socijalnih vještina[2]

Social Skills Training (SST)

The conception of social skills training is based on Bandura's social-cognitive model (SCT), about the mutual influence of cognitive and environmental factors on social behavior. SCT posits that individuals make decisions based on internal factors (such as emotions, expectations, attitudes and knowledge), as well as environmental factors (such as influence on others, social norms and physical environment), which are in turn influenced by behavior.[3] Findings of the meta-analytical studies, conducted on populations of children and young people and adults[4] confirm the desirable effect of SST in developing social skills.

Social skills in nursing

Wide ranges of jobs in healthcare, particularly in nursing, require professional knowledge and skills, with the appropriate degree of independence and responsibility in the work. Nursing staff work in interdisciplinary teams, in management and educational activities, with often the need to adapt to the changing conditions of the nursing system and characteristics of the patients. Hence, usual biomedical knowledge is not sufficient to work in the workplaces in which it is necessary to understand the experience of illness, as well as dealing with people whose health is impaired. Effective interactions between nursing professionals and patients generate information that is beneficial to patient outcomes. Furthermore, effective communication translates to increased patient knowledge and shared understanding, increased adherence to treatment recommendations, and the adoption of healthier habits and self-care strategies.[5,6] Numerous studies indicate the positive effects of training of communication/social skills of healthcare professionals, as well as the need to continuously develop these skills, particularly in physicians and nurses.[7,8,9,10,11] In relation to other health professionals in the team, nurses spend the longest time with patients. Hence, the need for good social skills in their profession has the highest priority. Developed communication skills do not necessarily mean

generally good social skills. Namely, during some social interaction it is important to recognize the unspoken, to recognize one's own thoughts and feelings (and manage them), as well to recognize the thoughts and feelings of other people. However, a nurse has to constantly develop these skills in her social interactions with patients, their families and within the nursing team. Despite the progress in the awareness of the importance of good communication in the health care system, literature continues to reflect challenges between professions in terms of communication.[12]

Social Skills Training in nursing education

Research findings clearly indicate the need for continuous SST in nursing practice, but also the need for the introduction of a particular type of training, included in their educational curricula. Moreover, a core communication curriculum applicable in all health care professions throughout Europe was developed, which defined common inter-professional objectives in communication for undergraduate teaching and was based on a broad European consensus.[13] Nursing students are enrolled in the study with their available social skills, which they have developed in earlier phases of their life. However, for successful nursing practice additional social skills are necessary. Debates, case studies, role-playing, storytelling, journaling, simulations and web page links to audio and video clips are some of the teaching strategies which can develop the interpersonal skills needed for meaningful interactions.[14] Hence, in most medical curricula at the undergraduate level, the course on communication skills still introduces "classic" classes (lectures, seminars and methodical exercises) about communication skills. Students learn about communication skills, but they do not gain insight into their own emotions, they are not rehearsing recognition of the emotions of others or train management or teamwork techniques. Although effective social interaction is a vital component of nursing care, nurses often have underdeveloped social skills, which are needed to communicate successfully with patients and other members of the health care team.[13] An effective way to develop social and communication skills is SST that involves the application of techniques of playing roles of modeling and analysis of video clips from the actual clinical situation. In spite of the fact that the application of different SSTs on students of nursing revealed beneficial consequences after training,[15,16,11] there is little evidence on comprehensive screening or assessments programs of such SSTs.[17] Moreover, there is a lack of general conclusion on the long-term effects of the SST. For example, the communicative competences of nurses acquired via study process become reduced during work in clinical practice.[13] Barth and Lannen[10] emphasized that continuous training throughout the education course of a nursing professional's career, may improve the communication skills acquired during clinical practice. Therefore, the SST in nursing education should begin at undergraduate level, continuing on the graduate level. Prior to this study, the research team developed a particular education program to enhance health students' social skills, consisting of a social skills training (SST) intervention. This program is partly based on the existing core curriculum[13] and, for the purpose of this research, adapted to the student population in the Republic of Croatia

In this article, we have examined the effect of this SST on students of health studies.

Goals and hypotheses

The first goal of the study was to determine the differences in the perceived social skills of the participants, in situations before and after social skills training in both experimental (included in training of social skills) and control group (which was not included in this training). Moreover, the second goal of the study was to determine the inter-correlations between different social skills in four situations: in experimental/ control group of participants and before/ after social skills training (SST) intervention.

Accordingly, we formulated the following expectations: First, we did not expect differences between the students who were and who were not included in the SST before the beginning of the Training. Second, we expected the group participating in SST to have statistically significant higher results on all social skills scales than the non-participating group. Finally, within the experimental group, we expected statistically significant results on all the social skills scales at the end of the SST, compared to their results before the SST.

Material and Methods

In this study, an experimental design type 2x2 was used, with the experimental (E) and control (C) group. Training of Social Skills (SST) (used as an independent variable) was conducted only in the experimental group, while self-assessments of social skills were used as the dependent variable.

Participants

The total sample consists of 239 health studies students aged from 19 to 24 from four Croatian universities (Nm = 28; Nf = 211). The students were randomly recruited from the student administration offices from four Croatian university departments of health studies. The inclusion criteria for the sample included bachelor-level health studies students currently enrolled in their first semester. A direct random number recruitment was conducted from the database of student administration offices, where each student has his unique identification number. After the recruitment process, students were randomly assigned to the control (N = 169; Nm = 16; Nf = 153) or experimental group (N = 70; Nm = 12; Nf = 58). However, due to missing values, the final sample included in statistical analysis consisted of 193 students, from which N = 132) in the control group and experimental group (n = 61). The control group of students was not involved in workshops of social skills, whereas students in the experimental group were recruited in a 10 days' workshop.

Social Skills Training (SST)

Workshops of social and communication skills were held from February to April of 2016 in four Croatian university departments of health studies. SST workshops consisted of ten different topics, which were conducted during the 10 days' period. The content of SST workshops was related towards the training of relevant social skills, important in nursing. Each topic was elaborated during 90-minute workshops, with a group of ten students. The titles of the topics were: Introduction to the social skills training on students of health studies, communication skills as a part of social skills, assessment of psychological states in the work of health professionals, emotional assessment skills and reaction on emotional states of patients, conversation skills with a patient with acute and chronical psychological disabilities, conversation skills with a patient with acute and chronical psychological disabilities – ineffective coping strategies, empathy and emotional intelligence, counselling skills in health care, skills of therapeutic use of silence and pause-nonverbal communication, and management skills and conflict resolution in health care.

Each one of the workshops had a standardized structure, according to the following scheme: a review of homework, theoretical introduction to the workshop, role-playing, watching videos (downloaded from YouTube), discussions, training, assigning next homework, feedback on the workshop. The teachers in certain university departments of health studies, who were experts in the field of communication, prepared and conducted the workshops by consensus. After each workshop, students from the experimental group gave written feedback on the workshop, which consisted of the assessment of usefulness of the workshop to work in the health sector on an estimation Likert-type scale in the range from 1 (not at all useful) to 5 (fully useful). The Social Skills Checklist (SSC)[18] scale was applied with students from both groups in two time points: immediately prior to the beginning of SST and immediately after the SST was ended. It consists of five dimensions: Conversational Skills (verbal and non-verbal) (10 items), Problem Solving (7 items), Understanding Emotions (10 items), Compliments (6 items) and Flexibility (five items). The participants responded on a 4-degree scale whereby the lower score corresponds to a higher degree of self-assessment of social skills and vice versa. The results of exploratory factor analysis, performed by certain dimensions, suggest that one-dimensional scales revealed satisfactory reliability coefficient type internal consistency (Cronbach's alpha): Conversational Skills ($\alpha = 0.73$); Problem Solving ($\alpha = 0.65$); Understanding emotions (Affective Skills) ($\alpha = 0.78$); Compliments (Approval Skills) ($\alpha = 0.75$); Flexibility (Adjustment Skills) ($\alpha = 0.79$). Correlations between these dimensions are mostly moderately high (varied in range from 0.34 to 0.59), indicating the multi-dimensionality of this measuring instrument. The students' participation in both training and research was anonymous and voluntary, and they could refuse further participation at any time. This study was approved by the Ethical Committee of the University Department of Health Studies as project coordinator.

Results

The first goal of the research was to determine whether change was noticed in self-reported use of different aspects of social skills: conversational skills, problem-solving skills, affective skills, approval skills and adjustment skills. The students in the experimental group estimated the quality of the workshops in the range from 4.66 to 4.93 (out of possible 5). When considering the differences, one must have in mind that higher scores in fact mean a lower level of certain social skills.

The insight in Table 1 reveals that the means in Conversational Skills Scores (CSS) are lower in the control group, both in the periods before and after social skills training. On the other hand, the means in Problem Solving Scores (PSS) are lower in the control group, too, both in the periods before and after social skills training.

Table 1: Descriptive statistics of Conversational Skills Scores (CSS) and Problem Solving Scores (PSS) in experimental and control group, before and after social skills training
Tablica 1. Deskriptivna statistika o Ocjeni vještina govora (CSS) te Ocjeni rješavanja problema (PSS) u eksperimentalnoj i kontrolnoj grupi prije i poslije treninga socijalnih vještina

	Measurement point (N)	Mean	SE	Measurement point (N)	Mean	SE
Experimental (E)	CSS before (61)	23.377	0.525	PSS before (64)	14.453	0.347
	CSS after (61)	20.852	0.607	PSS after (64)	13.047	0.430
Control (C)	CSS before (132)	24.955	0.357	PSS before (137)	15.307	0.237
	CSS after (132)	24.098	0.413	PSS after (137)	15.197	0.294

Legend: Experimental group (E); Control group (C); Before/After (training of social skills); SE – standard error
Legenda: Eksperimentalna grupa (E); Kontrolna grupa; Prije/Poslije (trening socijalnih vještina); SE – standardna greška

Table 2: Two-way Analysis of Variance with Effect Sizes and Powers in Conversational Skills Scores (CSS) and Problem Solving Scores (PSS) between experimental and control group, before and after social skills training
Tablica 2. Dvosmjerna analiza varijance s učincima veličine i snage kod Ocjene konverzacijskih vještina i Ocjene rješavanja problema između eksperimentalne i kontrolne grupe prije i poslije treninga socijalnih vještina

Conversational Skills *Konverzacijske vještine* Scores (CSS) / *Ocjene*	Df	F	p (F)	Partial eta-squared	Non-centrality	Observed power (alpha = 0,05)
Group (E/C)	1	23.961	**0.000**	0.111	23.961	0.998
Before/After	1	12.507	**0.001**	0.061	12.507	0.940
Interaction	1/191	3.047	0.083	0.016	3.047	0.412
Problem Solving / *Rješavanje problema* Scores (PSS) / *Ocjene*	Df	F	p (F)	Partial eta-squared	Non-centrality	Observed power (alpha = 0.05)
Group (E/C)	1	18.505	**0.000**	0.085	18.505	0.990
Before/After	1	5.623	**0.019**	0.027	5.623	0.655
Interaction	1/199	4.116	**0.044**	0.020	4.116	0.524

Legend: Experimental group (E); Control group (C); Before/After (training of social skills); Bold (statistically significant effects) SE – standard error / *Legenda: Eksperimentalna grupa (E); Kontrolna grupa; Prije/Poslije (trening socijalnih vještina); Podebljano (statistički značajni učinci); SE – standardna greška*

The results in Table 2 indicate that there is a significant difference in the self-assessment of both CSS and PSS, regarding to the group of participants, in the direction of better (lower) scores in the experimental group, as compared with the control group scores (in both situations: before and after the training).

Moreover, there is a significant difference in the self-assessment of CSS with regard to the measurement point (before/after) in the expected direction (lower average scores after the program of training). Interaction effects were not statistically significant for CSS, but the interaction is statistically significant for PSS at the level of $p < 0.05$ (Table 2).

The results of post-hoc analysis (Bonferroni test) revealed that there is a significant effect of social skills training found in CSS, but only in the experimental group of participants ($p = 0.010$), in the direction of statistically significant lower (in fact higher) self-assessment of conversational skills, after the training was completed. The analysis of the differences according to self-assessment of problem solving (PSS) revealed statistically significant differences between the groups before and after training ($p = 1.000$). Insight in post-hoc analysis indicates that the only significant difference in PSS between the situations before and after the training is found in the experimental group (in expected direction, of better PSS after the training). However, the level of significance of post-hoc test for the situation before and after training in the experimental group was statistically significant $p = 0.050$.

The insight in Table 3 reveals that the means in Affective Skills Scores (ASS) are worse (higher) in the control group, both in the periods before and after social skills training. Means in Approval Skills Scores (APSS) are slightly worse (higher) in the control group, both in periods before and after social skills training.

Table 3: Descriptive statistics of Affective Skills Scores (ASS) and Approval Skills Scores (APSS) in experimental and control group, before and after social skills training
Tablica 3. Deskriptivna statistika Afektivne ocjene vještina i Ocjene vještina odobravanja kod eksperimentalne i kontrolne grupe, prije i poslije treninga socijalnih vještina

	Measurement point (N)	Mean	SE	Measurement point (N)	Mean	SE
Experimental (E)	ASS before (63)	17.825	0.548	APSS before (64)	11.500	0.403
	ASS after (63)	16.429	0.548	APSS after (64)	10.453	0.422
Control (C)	ASS before (133)	20.173	0.377	APSS before (135)	12.748	0.278
	ASS after (133)	19.797	0.377	APSS after (135)	12.859	0.290

Legend: Experimental group (E); Control group (C); Before/After (training of social skills); SE – standard error
Legenda: Eksperimentalna grupa (E); Kontrolna grupa; Prije/Poslije (trening socijalnih vještina); SE – standardna greška

Table 4: Two way Analysis of Variance with Effect Sizes and Powers in Affective Skills Scores (ASS) and Approval Skills Scores (APSS) between experimental and control group, before and after social skills training
Tablica 4. Dvosmjerna analiza varijance s učincima veličine i snage kod Afektivne ocjene vještina i Ocjene vještina odobravanja između eksperimentalne i kontrolne grupe, prije i poslije treninga socijalnih vještina

Affective Skills / *Afektivne vještine* Scores (ASS) / *Ocjene*	df	F	p(F)	Partial eta-squared	Non-centrality	Observed power (alpha = 0.05)
Group (E/C)	1	34.625	**0.000**	0.151	34.625	1.000
Before/After	1	3.808	0.052	0.019	3.808	0.493
Interaction	1/194	1.263	0.262	0.006	1.263	0.201
Approval Skills / *Vještine odobravanja* Scores (APSS) / *Ocjene*	df	F	p(F)	Partial eta-squared	Non-centrality	Observed power (alpha = 0.05)
Group (E/C)	1	24.091	**0.000**	0.109	24.091	0.998
Before/After	1	1.949	0.164	0.010	1.949	0.285
Interaction	1/199	2.985	0.086	0.015	2.985	0.405

Legend: Experimental group (E); Control group (C); Before/After (training of social skills); Bold (statistically significant effects) / *Legenda: Eksperimentalna grupa (E); Kontrolna grupa; Prije/Poslije (trening socijalnih vještina); Podebljano (statistički značajni učinci)*

The results in Table 4 indicate that there is a significant difference in the self-assessment in Affective Skills Scores (ASS), as well as in Approval Skills Scores (APSS), according to the group of participants (experimental/control). Moreover, there is a trend (very close to statistical significance, i.e. p = 0.052) of differences in understanding emotions (ASS) with regard to the measurement point (before/ after), in the expected direction (lower, i.e. better scores in experimental group, after the training). Interaction effects were not significant for ASS, nor for APSS (Table 4).

The results of post-hoc analysis (Bonferroni test) revealed that there is no significant effect of social skills training found in ASS, in the experimental group of participants, nor in the control group, after the trainings were completed (p = 1.000). When analyzing skills related to giving and receiving praises (APSS), statistically significant differences were found between the control and experimental group (p = 0.050). However, a statistically significant effect of training is found only in the experimental group, in the expected direction: better (lower) scores in APSS after the period of training. The effect size of the differences between the groups (control and experimental) is quite high.

The insight in Table 5 reveals that the means in Adjustment Skills Scores (ADSS) are slightly better (lower) in the experimental group, both in the periods before and after social skills training.

The results given in Table 6 indicate that there is a significant difference in the self-assessment in Adjustment Skills Scores (ADSS), according to the group of participants, but also between the situations before and after the training of social skills, in the expected direction: better (lower) scores only in the experimental group, after training (Bonferroni test p = 0.007). However, Bonferroni test revealed that the differences are statistically significant also between the control and experimental group of participants, in the direction of better (lower) scores in experimental group, in the situation after the training (p = 0.000). Interaction effect was statistically significant for ADSS (Table 6).

Table 5: Descriptive statistics of Adjustment Skills Scores (ADSS) in experimental and control group, before and after social skills training
Tablica 5. Deskriptivna statistika za Ocjene vještine prilagođavanja kod eksperimentalne i kontrolne grupe, prije i poslije treninga socijalnih vještina

Adjustment Skills *Vještine prilagođavanja* Scores (ADSS) / *Ocjene*	Measurement point (N)	Mean	SE	Measurement point	(1)	(2)	(3)
Experimental (E)	ADSS before (64)	10.047	0.357	(1) ADSS before			
	ADSS after (64)	8.547	0.324	(2) ADSS after	**0.007**		
Control (C)	ADSS before (139)	10.842	0.242	(3) ADSS before	0.327	**0.000**	
	ADSS after (139)	10.885	0.220	(4) ADSS after	0.256	**0.000**	1.000

Legend: SE – standard error / *SE – standardna greška*

Table 6: Two way Analysis of Variance with Effect Sizes and Powers in Adjustment Skills Scores (ADSS) between experimental and control group, before and after social skills training
Tablica 6. Dvosmjerna varijanca s veličinama učinka i snage kod Ocjene vještine prilagođavanja između eksperimentalne i kontrolne grupe, prije i poslije edukacije društvenih vještina

Adjustment Skills *Vještine prilagođavanja* Scores (ADSS) / *Ocjene*	df	F	p(F)	Partial eta-squared	Non-centrality	Observed power (alpha = 0,05)
Group (E/C)	1	26.126	**0.000**	0.115	26.126	0.999
Before/After	1	6.992	**0.009**	0.034	6.992	0.749
Interaction	1/201	7.845	**0.006**	0.038	7.845	0.796

Legend: Experimental group (E); Control group (C); Before/After (training of social skills); Bold (statistically significant effects) / *Eksperimentalna grupa (E); Kontrolna grupa; Prije/Poslije (trening socijalnih vještina); Podebljano (statistički značajni učinci)*

Table 7: Correlations between all the aspects of social skills in experimental/control group, before/after social skills training
Tablica 7. Korelacija između svih aspekata društvenih vještina kod eksperimentalne i kontrolne grupe, prije i poslije edukacije društvenih vještina

E / Before / *Prije* (N = 61)	CSS	PSS	ASS	APSS	ADSS
CSS	1.00				
PSS	0.37**	1.00			
ASS	0.27*	0.53**	1.00		
APSS	0.30*	0.39**	0.49**	1.00	
ADSS	0.21	0.38**	0.59**	0.58**	1.00
E / After / *Poslije* (N = 60)	CSS	PSS	ASS	APSS	ADSS
CSS	1.00				
PSS	0.61**	1.00			
ASS	0.70**	0.81**	1.00		
APSS	0.42**	0.53**	0.47**	1.00	
ADSS	0.60**	0.66**	0.59**	0.55**	1.00
C / Before / *Prije* (N = 125)	CSS	PSS	ASS	APSS	ADSS
CSS	1.00				
PSS	0.47**	1.00			
ASS	0.39**	0.58**	1.00		
APSS	0.41**	0.54**	0.62**	1.00	
ADSS	0.41**	0.56**	0.62**	0.49**	1.00

C / Poslije / *After* (N = 138)	CSS	PSS	ASS	APSS	ADSS
CSS	1.00				
PSS	0.61**	1.00			
ASS	0.35**	0.55**	1.00		
APSS	0.50**	0.55**	0.55**	1.00	
ADSS	0.36**	0.53**	0.53**	0.64**	1.00

Legend*:* Conversational Skills Scores (CSS), Problem Solving Scores (PSS), Affective Skills Scores (ASS), Approval Skills Scores (APSS), Adjustment Skills Scores (ADSS); Experimental group (E); Control group (C); Before/After (training of social skills)
** correlation significant at $p < 0.01$; * correlation significant at $p < 0.05$
Legenda: Ocjena konverzacijskih vještina (CSS), Ocjena rješavanja problema (PSS), Ocjena afektivnih vještina (ASS), Ocjena vještina odobravanja (APSS), Ocjena vještina prilagođavanja (ADSS)
Eksperimentalna grupa (E); Kontrolna grupa (C); Prije/Poslije (trening društvenih vještina)
*** korelacija značajna kod p < 0,01; * korelacija značajna kod p < 0,05*

In the experimental group of participants, positive statistically significant inter-correlations are revealed between all the dimensions of social skills (varied in range from moderately high to high), in the situation after the training. Similarly, in the situation before the training, all the correlations between the dimensions of social skills were positive, and only one was not statistically significant. However, these correlations varied in range from low to moderately high, i.e. they were in general lower than in the situation after training (Table 7).

In the control group of participants, positive statistically significant inter-correlations are revealed between all the dimensions of social skills (varied in range from moderately high to high), in the situation after the training. Similarly, in the situation before the training, all the correlations between the dimensions of social skills were positive and statistically significant, varied in range from low to high, generally being similar as in the situation after training (Table 7).

When comparing correlations between the dimensions of social skills in control and experimental group, in the same time point, it could be seen that the intercorrelations between social skills were generally lower in experimental, than in the control group, in the situation before the training. In the situation after the training, the trend is quite opposite (intercorrelations between social skills were generally higher in experimental group).

Discussion

The key finding is the fact that some expected statistically significant differences in certain self-perceived social skills, which is present only in the experimental group of participants, are obtained in this study. Similar insights provide the trend of intercorrelations, which are generally higher in the experimental group after the end of the training. A significant difference in the conversational skills, as well as in the adjustment skills, in the expected direction (better/lower) average scores after the program of training is found. In other social skills, the differences were not statistically significant. The reason why these two types of skills (conversational and adjustment skills) are advanced, while the other are not, could be explained in terms of the contents of the training, as well as in terms of the specificity of certain social skills. For example, problem solving, affective and approval skills could be perceived by nursing professionals as more situation related. This explanation is in line with finding about the attitudes towards social skills, where the clinical context is perceived as an important environment for learning social skills.[19]

However, when explaining these results, one must have in mind that the perception of acquired social skills could be quite different from really acquired social skills. The perception of their own conversational skills (in nurses) very often overestimated the estimation of the same skills which is performed by their patients. For example, Blazevic[20] found that nurses with long work experience have assessed their own communication skills significantly better than their communication skills are assessed by their patients. The change only in two aspects (out of possible five) of social skills may confirm the claim that nurses often have underdeveloped particular social skills,[13] which could not be developed so easily. Namely, in spite of the fact that the effects of different SSTs, conducted on nursing students, could be beneficial for the improvement of these skills after training[11,14,15,16] the duration and continuity of the training are the features that should not be ignored. Particularly continuous training throughout education, during clinical practice and collecting experiences in nursing professionals' career,

may improve their social and communication skills.[10] Even in these studies, there is a general lack of a conclusion about the persistence of the effects of training. As it has been mentioned earlier, the communicative competence of nurses acquired during the learning process reduces through workflow in clinical practice.[13] Additional influence on the results obtained could be partially explained in terms of the attitudes towards SST in general, which could be reflected both in the perception of changes in social skills before and after SST. The duration of the SST could be reflected in the attitudes towards SST and its effects. For example, a five-year SST resulted in changes in attitudes,[21] while SST for a period of one year does not result in changes in attitudes towards SST.[22] Harlak et al.[22] point out the possibility of the appearance of the phenomenon named the "boomerang effect", which deals in the direction of worsening of attitudes on the importance of teaching social skills during time. This boomerang effect is caused by the negative perception of sources of influence (e.g. coaches, etc.),[22] while the other possible cause of worsening of attitudes towards SST could be "reactive resistance" in responses. Reactive resistance could be caused by the experience of training as manipulation with its participants. However, the positive changes in perceived social skills, obtained in this study, are not to be neglected in spite of the fact that the period of SST was relatively short, while the perception of changes in social skills does not mean real changes in these skills in the expected direction.

On the other hand, contrary to the expectation on the absence of initial differences in perceived social skills between the experimental and control group, the findings from this study suggest better (lower) scores in the experimental group in this phase of the research. One reasonable explanation of these results refers to a generally difficult change of attitudes, in the moment when they are already formed. Probably the 10 workshops, which are conducted with the students, are not enough to change the attitude on the importance of teaching social skills. Harlak et al,[22] who concluded that training is not effective enough to change the attitudes of students towards learning social skills, obtain the similar finding. Except for the above mentioned explanations related with "reactive resistance" in responses and "boomerang effect", more negative attitudes toward social skills in a control group (that did not participate in SST) could be the consequence of additional resistance, caused by the lack of involvement of the control group members in SST. Hence, motivational factors could be the reason why the students who are selected in the experimental group already positively assessed the importance of social skills and the level of their social skills, as compared with the students who are not selected for SST (control group). The appearance of these, for this study undesirable motivational factors, lie in the structure of our subsamples of participants. Namely, both control and experimental group members are the students from the same study groups, with possibility of easy insight that some of students are included in SST, while the others are not. On the other hand, although randomly selected, the participants included in the control and experimental group(s) are in fact a stratified sample from rather small subpopulations. Hence, initial better scores in the experimental group could be obtained accidentally, to some extent.

The main advantage of this research is to introduce an innovative program of the training of social skills, which is applied in freshman undergraduate nursing students, with initially positive effects of training, even in two from the five social skills, estimated as the self-perception of these skills. Shortcomings of the study are mainly focused on the bias, which could be the reason for initial differences in self-assessed social skills, which are revealed between the control and experimental group. This methodological error was hardly avoidable, because the nature of the study (including freshman undergraduate nursing students from various health studies across Croatia), presumed the possibility that in a small study group, students from the control and experimental groups communicate about this experiment.

In future studies, this type of bias should be prevailed as much as possible, with precisely given instructions on avoiding sharing the information about the experiment. Another way is to include the control group in the “placebo” experiment, to avoid "reactive resistance" or “boomerang effect”. However, in future studies larger sample(s) of participants should be included, from various health studies groups, but also from different years of study. With these improvements, the sample(s) should be more representative, the generalization of the findings could be better; bias could be lower, while the comparison of the effects of SST could be more sophisticated. Finally, crucial improvement should be made in redefining the specific contents of the SST, together with extended duration of SST, repeatability of certain contents, or introducing new contents of SST. Direct practical application of these findings should be focused on improving the social skills training program, as well as to avoid bias in such social skills training evaluations. These results indicate the need for corrective measures while evaluating similar workshops (avoiding Rosenthal’s and similar effects that could contribute to the bias), as well as the need

for introducing changes and/or improving the program of the social skills training.

Conclusion

The results revealed to some extent deviate from the initial expectations. The hypothesis about statistically significant differences in certain self-perceived social skills is partially confirmed. Namely, there is a significant difference in the self-assessment of Communication Skills Scores (CSS), as well as in the Adjustment Skills Scores (ADSS), with regard to the measurement point (before/after) in the expected direction (better (lower) average scores after the program of training). On the other hand, the expectation on the absence of initial differences (before social skills training) in the perceived social skills between the experimental and control group was not confirmed. In all the examined self-perceived social skills, the findings indicate better (lower) scores in the experimental group, as compared with the control group scores, in both situations: before and after social skills training). The most reasonable explanations of these results are focused on the fact that self-estimation of social skills partially reflects the attitudes towards SST, while the perception of social skills levels need not be identical to the really acquired social skills. The results of this research encourage the further development of social skills curricula in nursing students. Special attention should be given to the development of skills considered dealing with "complex" patients, which is especially relevant for the nursing profession.

References

1. O*Net Social skills. (Internet). 2006 May (cited 2015 Dec 22); Accessible at the address: http://online. onetcenter.org/skills/ Information access date May 15, 2016.
2. Canney C, Byrne A. Evaluating Circle Time as a support to social skills development - reflections on a journey in school-based research. Brit J Spec Educ. 2006;33:19-24.
3. Bandura A. Social foundations of thought and action: A social cognitive theory. Prentice-Hall, Inc.; 1986.
4. Klein CR, Salas E. Meta-analytic investigations of antecedents and outcomes of interpersonal skills. PsycEXTRA Dataset.
5. Epstein RM, Street RL. Patient-centered communication in cancer care: Promoting healing and reducing suffering. PsycEXTRA Dataset.
6. Kelley JM, Kraft-Todd G, Schapira L, Kossowsky J, Riess H. The Influence of the patient-clinician relationship on nursing outcomes: A systematic review and meta-analysis of randomized controlled trials. PLoS ONE. 2014;9(4).
7. Sargeant J, MacLeod T, Murray A. An inter-professional approach to teaching communication skills. J Contin Educ Health Prof. 2011;31:265-67.
8. Kourkouta L, Papathanasiou IV. Communication in nursing practice. Mater Sociomed. 2014;26:65-67.
9. Ha JF, Longnecker N. Doctor-patient communication: a review. Ochsner J. 2010;10:38-43.
10. Barth J, Lannen, P. Efficacy of communication skills training courses in oncology: a systematic review and meta-analysis. Ann Oncol. 2010;22:1030-40.
11. Khodadadi E, Ebrahimi H, Moghaddasian S, Babapour J. The effect of communication skills training on quality of care, self-efficacy, job satisfaction and communication skills rate of nurses in hospitals of Tabriz, Iran. J Caring Sci. 2013;262:27-37.
12. Foronda C, MacWilliams B, McArthur E. Inter-professional communication in healthcare: An integrative review. J Nurs Educ Pract. 2016;19:36-40.
13. Bachmann C, Abramovitch H , Barbu CG et al. A European consensus on learning objectives for a core communication curriculum in health care professions. Patient Educ Couns. 2013;93:18-26.
14. Bhana VM. Interpersonal skills development in Generation Y student nurses: a literature review. Nurse Educ Today. 2014;34:1430-34.
15. Włoszczak-Szubzda A, Jarosz MJ. Professional communication competences of nurses – a review of current practice and educational problems. Ann Agric Environ Med. 2013;20:183-8.
16. Yamamoto E, Tanaka T, Hyodo Y, Hatanaka K. Examination of a social skills training program related to transmitting and taking directions in basic nursing education. LIFE: Int J Health Life-Scienc. 2015;1: 227-37.
17. Ryan C, Charragáin CN. (2010). Teaching emotion recognition skills to children with autism. J Autism Develop Disorders. 40:1505-1511.
18. Social Skills Checklist. Escambia County School District. Accessible at the address: http://ecsd-fl.schoolloop.com/file/1451351551221/1444719927147/2655398763271898707.pdf Information access date July15, 2017.
19. Sanson-Fisher R, Cockburn J. Effective teaching of communication skills for medical practice: selecting an appropriate clinical context. Med Educ. 1997:52-7.
20. Blažević D. Razlike u samoprocjeni i procjeni od strane bolesnika komunikacijskih vještina medicinskih sestara u Klinici za psihijatriju KBC-a Split /diplomski rad/. Split: University Department for Health Studies; 2014.
21. Rosenthal J, Ogden J. Changes in medical education: The beliefs of medical students. Med Educ. 1998;32: 127-32.
22. Harlak H, Gemalmaz A, Gurel F S, Dereboy C, Ertekin K. Communication skills training: effects on attitudes toward communication skills and empathic tendency. Educ Health. 2008;21:62